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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,908	01/26/2004	Fang Lei	02581- P0553A	3365
24126	7590	04/15/2005	EXAMINER	
ST. ONGE STEWARD JOHNSTON & REENS, LLC			NGUYEN, THONG Q	
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STAMFORD, CT 06905-5619			PAPER NUMBER	
			2872	

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/764,908

Applicant(s)

LEI, FANG

Examiner

Thong Q. Nguyen

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2004 and 28 February 2005.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 15 and 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-14, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The present Office action is made in response to the pre-amendments filed on 1/26/2004 and 2/28/2005.

It is noted that in the preamendment of 1/26/2004, applicant has made amendments to claims 1-22 and in the preamendment of 2/28/2005, applicant has made amendments to claim 2.

### ***Election/Restrictions***

2. The application contains claims 1-22 was subjected to a restriction requirement on the basis of different species of the generic invention. See Office action of 2/1/2005. In response to the restriction requirement, applicant has elected claims 1, 3 and 5-17 which are directed to the species shown in figure 1.

A review of claims 1, 3 and 5-17 has resulted that the claim 15 is not directed to the elect species shown in figure 1 because the figure 1 does not disclose that the outer rod lens is a single lens. The feature of claim 15 is directed to an outer rod lens which is a combination of a main rod lens and lens elements cemented to the main rod lens. As a result, the claims of the species shown in elected figure 1 are claims 1, 3, 5-14 and 16-17 which are examined in this office action. Claims 2, 4, 15 and 18-22 have been withdrawn from further consideration as being directed to non-elected species..

3. Applicant's election with traverse of the species shown in figure 1 in the reply filed on 2/28/2005 is acknowledged. The traversal is on the ground(s) that the generic claim 1 is allowable then the dependent claims subjected to different species are

rejoined. This is not found persuasive because the device as claimed in the generic claim 1 is not allowable for the reasons as provided in this Office action.

The requirement is still deemed proper and is therefore made FINAL.

***Priority***

4. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in German on July 26, 2001. It is noted, however, that applicant has not filed a certified copy of the Germany application as required by 35 U.S.C. 119(b).

***Drawings***

5. The drawings contained six sheets of figures 1-6 were received on 1/26/2004. These drawings are objected by the Examiner for the following reasons.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features recited in the claims must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

First, the feature related to the center rod lens in the combination of a biconvex rod main lens element and meniscus lens elements cemented to the biconvex rod main lens element as recited in claim 5; and

Second, the feature thereof "the rod lens main elements are asymmetrical with...optical axis" as recited in claim 10.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: The numerical references "21" and "31" shown in figure 1 are not mentioned in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

9. The specification is objected to because it does not contain headlines such as Brief Description of the drawings; Summary of the Invention, etc... for the purpose of providing a clear framework of the specification.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.

Art Unit: 2872

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

10. The disclosure is objected to because of the following informalities: a) Page 3: section [00013], the description thereof "The aim of the invention, therefore, is to produce the brightest possible image at a given [partial word: German "ge"] with...remain low" is unclear. What does applicant means by "at a given [partial word: German "ge"]" ? b) Page 4: In each of sections [00014] – [00017], on line 1 of each section, the reference to the claim should be deleted. For example, the phrase thereof "In accordance with the generic term of claim 1" (section [00014, line 2) should be changed to --In accordance to the invention--. Applicant should note that the specification should not refer to the claim9s) for the purpose of providing a concise description of the invention; c) Page 5: section [00021], the description thereof "The other characteristic from the specific portion of patent claim 2 [incomplete sentence: text missing?]" is unclear. What does applicant mean by that? d) Page 6, Section [00024], the manner to show the values related to the optical characteristics of the optical elements as listed in the Table of the section does not comply with the United states practice. In other word, the term "34,7" should be changed to --34.7--; the term "52,0"

Art Unit: 2872

should be changed to --52.0-- , etc... It is also suggested that the terms "Surface No. 1" should be changed to --Surface No. -- . There are still some grammatical and idiomatic errors in the specification. Applicant should proofread the specification. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 10 is rejected under 35 USC 112, first paragraph because the specification does not provide support for the feature related to the asymmetrical configuration of the rod lens mains elements with respect to their center plane as recited in the claim. Applicant is respectfully invited to review the present specification and the drawings in which the specification discloses an arrangement of a center rod lens and two outer rod lenses disposed on the opposite sides of the center rod lens wherein the rod lens is symmetrical with respect to its center plane and the lens surfaces of the center rod lens are symmetrical with respect to the center plane of the main rod lens.



***Claim Objections***

13. Claims 1, 5, 8-9, 13 and 17 are objected to because of the following informalities.

Appropriate correction is required.

a) In claim 1: on line 4, the feature related to the optical axis lacks a proper antecedent basis. *Should "the optical axis" (line 4) be changed to --the optical axis of the image transmission system --* to make clear the feature claimed and also to make the claim comply with the requirement of 35 USC 112, second paragraph?

Second, the feature thereof "the center rod lens is essentially of the same length as, or longer than, the outer rod lenses" (lines 11-12) is misdescriptive of the invention as taught in the specification, in particular in page 4, sections [00015], [00017]; page 5, section [00020] ... which discloses that the length of the center rod lens is the same or longer than the length of the outer rod lens. The specification does not disclose that the length of the center rod lens is the same or longer than the length of all outer rod lenses as readable from the mentioned feature. Thus, *should the mentioned feature be changed to --the center rod lens is essentially of the same length as, or longer than, the length of each of the outer rod lenses--* to make the feature claimed having support from the specification?

b) In claim 5: on line 4, "them" should be changed to --it--. See claim 3, line 4.

c) In claim 8: on lines 3-4, *the feature thereof "the length of the center rod lens essentially corresponds to the length of the outer rod lenses" should be changed*

*to --the length of the center rod lens essentially corresponds to the length of the outer rod lenses--*. See the same reason as set forth in element a) above.

d) In claim 9, the feature thereof "the rod lens main elements" (line 3) lacks a proper antecedent basis. Applicant is respectfully invited to review base claim 1 on lines 1-2 and 7 which recites an image transmission system having a center rod lens and two outer rod lenses (see line 2 of claim 1) and the center rod lens has a rod lens main element (see line 7 of claim 1). Thus, *should "elements" (claim 9, line 3) be changed to --element-- and the term "their (claim 9, line 3) be changed to --its--?*

e) In claim 13: on line 3, the term "elements" should be changed to --element--. See the same reason as set forth in element d) above.

f) In claim 17: on line 3, the feature thereof "the outer rod lenses are of one piece" does not match with the teaching provided in the specification. Applicant should note that the outer rod lenses are disposed on opposite sides of the center rod lens and each of the outer rod lens is a one piece. *Should the mentioned feature be changed to --each of the outer rod lenses is of one piece--?*

### ***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2872

15. Claims 1, 8-9, 11-14 and 16, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al (U.S. Patent No. 5,743,846).

Takahashi et al disclose an endoscope having an image transmission system. In the embodiment as described in columns 23 and 49-50 and shown in figure 21, the image transmission system (52) comprises a plurality of image transmission units (52a-c) in which each unit comprises a center rod lens element and two outer rod lens elements disposed on the opposite sides of the center rod lens element and in a symmetrical to one another with respect to the center lens element which in combination form a cylinder. Each of the center rod lens element is a combination of a rod main lens element and two cemented lens elements cemented to the main rod element to form a biconvex center rod lens element. It is noted that the center rod lens element is symmetrical with respect to its center plane perpendicular to the optical axis of the image transmission unit and the lens surfaces of the main rod lens element and the cemented lens elements are also symmetrical with respect to the center plane perpendicular to the optical axis of the image transmission unit and the center rod lens element. Each of the outer rod lens elements is a biconvex lens element and the rod lens elements are arranged in a vertex-to-vertex adjacent configuration to one another without any distancing tubes located between two adjacent rod lens elements. Regarding to the material of the lens elements, Takahashi et al disclose that the material of the lens elements is homogenous material (see column 30, lines 55+). Regarding to the lengths of the center rod lens element and the outer rod lens

Art Unit: 2872

elements and the curvature of the lens surfaces, it is noted that in the data provided in Table 7, columns 49-50, the lens surfaces have spherical configurations and the length of the center rod lens element is about 31.769 which is essentially of the same length of each outer rod lens element which is about 31.479.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 3, 5-7 and 17, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al in view of Takahashi (Japanese reference No. 61-20015).

The endoscope having image transmission system wherein each units of the image transmission system comprises a center rod lens element and two outer rod lens elements as provided by Takahashi et al does not disclose that the center lens element is a combination of a center biconcave lens elements and two biconvex lens elements cemented to the biconcave lens elements on its opposite sides as recited in present claim 3 or the center rod lens element is combination of a center biconvex lens elements and two meniscus lens elements cemented to the biconvex lens elements on its opposite sides as recited in present claims 5-7. However, the use of an image transmission system having a

plurality of image transmission units each comprises a center rod lens and two outer rod lens elements wherein the center rod lens element is a combination of a center biconcave lens elements and two biconvex lens elements cemented to the biconcave lens elements on its opposite sides or the center rod lens element is combination of a center biconvex lens elements and two meniscus lens elements cemented to the biconvex lens elements on its opposite sides is known to one skilled in the art as can be seen in the endoscope having an image transmission system provided by Takahashi (Japanese reference No. 61-20015; hereafter '015). In particular, the image transmission unit as described in page 93 and shown in figures 4 comprises a center rod lens and two outer rod lens elements wherein the center rod lens element is a combination of a center biconcave lens elements and two biconvex lens elements cemented to the biconcave lens elements on its opposite sides . It is also noted that each of the outer rod lens element is a single piece. In other embodiment, Takahashi discloses an image transmission unit having a center rod lens and two outer rod lens elements wherein the center rod lens element is combination of a center biconvex lens elements and two meniscus lens elements cemented to the biconvex lens elements on its opposite sides. See the embodiments provided in pages 93-94 and shown in figures 6 and 8. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the mage transmission system as provided by Takahashi et al by using an image transmission system having plural image transmission units each having a

Art Unit: 2872

center rod lens and two outer rod lens elements wherein the center rod lens element is a combination of a center biconcave lens elements and two biconvex lens elements cemented to the biconcave lens elements on its opposite sides or the center rod lens element is combination of a center biconvex lens elements and two meniscus lens elements cemented to the biconvex lens elements on its opposite sides as suggested by Takahashi '015 for the purpose of providing other means for correcting the image aberrations.

### ***Conclusion***

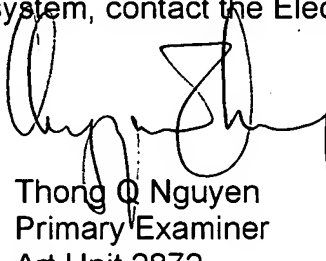
18. The additional references are cited as of interest in that each discloses an image transmission system.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Nguyen  
Primary Examiner  
Art Unit 2872

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